



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,795	08/15/2006	Karl Schermanz	16785.1	6850
22913	7590	12/22/2010		
Workman Nydegger			EXAMINER	
1000 Eagle Gate Tower			DARJI, PRITESH D	
60 East South Temple				
Salt Lake City, UT 84111			ART UNIT	PAPER NUMBER
			1731	
			MAIL DATE	DELIVERY MODE
			12/22/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/595,795	SCHERMANZ ET AL	
	Examiner	Art Unit	1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 02 November 2010.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 21-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 21-24 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 11 May 2006 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

<ol style="list-style-type: none"> 1)<input checked="" type="checkbox"/> Notice of References Cited (PTO-892) 2)<input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-878) 3)<input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No./Mail Date _____ 	<ol style="list-style-type: none"> 4)<input type="checkbox"/> Interview Summary (PTO-413) Paper No./Mail Date _____ 5)<input type="checkbox"/> Notice of Informal Patent Application 6)<input type="checkbox"/> Other: _____
---	---

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/02/2010 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kleemann (Investigation of... analysis) in view of Reddy (Surface... Techniques).

Regarding claims 21 and 23, Kleemann teaches a process for preparation of a catalyst composition in which monolithic cordierite honeycomb was immersed in the suspension of TiO_2 with 9% WO_3 . Since there is not any other component present in the suspension, 91 wt% TiO_2 is present in the suspension. It is obvious that slurry is formed because TiO_2 and WO_3 are powders and their presence in the suspension

would form slurry. After impregnation sample is dried and it is impregnated with NH_4VO_3 . Sample is dried and calcined. See 2. Experimental, 2.1. Absence of SiO_2 makes its wt% 0, therefore the limitation is met.

Kleemann does not teach that REVO_4 is contacted with the TiO_2 and WO_3 .

Reddy, drawn to surface characterization of $\text{CeO}_2/\text{SiO}_2$ and $\text{V}_2\text{O}_5/\text{CeO}_2/\text{SiO}_2$, disclosed a method of preparing 5% $\text{V}_2\text{O}_5/\text{CeO}_2/\text{SiO}_2$ catalysts in which vanadium oxide with ammonium metavanadate (NH_4VO_3) is dissolved in aqueous oxalic acid. Then powdered support as added. The resulting material was dried and calcined. See Experimental Section, para 2 and table 1. Calcining the resultant at 973K resulted in the formation of CeVO_4 . See pg 10967, col. 1, lines 1-12. Therefore the formation of CeVO_4 occurs in the process. In the process powdered support materials are added as well so they are in contact with the formed CeVO_4 .

It would have therefore been obvious to one of ordinary skill in the art at the time of invention to have substituted CeVO_4 and $\text{SiO}_2/\text{V}_2\text{O}_5/\text{CeO}_2$ of Reddy for ammonium vanadate of Kleemann, motivated by the fact that the combination of vanadia (known for its redox properties) and ceria (known for its oxygen storage and release functions) gives rise to a catalyst system that may catalyze extraneous redox reactions for both selective and non-selective oxidation. See pg 10965, col. 1, lines 2-18. Kleemann uses ammonia metavanadate (NH_4VO_3), which can be replaced by cerium vanadate (CeVO_4) to yield above stated advantages.

Regarding claim 22, any difference imparted by the product by process limitations would have been obvious to one having ordinary skill in the art at the time the

invention was made because where the examiner has found a substantially similar product as in the applied prior art the burden of proof is shifted to the applicant to establish that their product is patentably distinct not the examiner to show the same process of making, see *In re Brown*, 173 USPQ 685, *In re Fessmann*, 180 USPQ 324, *In re Spada*, 15 USPQ2d 1655, *In re Fitzgerald*, 205 USPQ 594 and MPEP 2113.

Regarding claim 24, Reddy teaches method of preparing 5% $V_2O_5/CeO_2/SiO_2$ catalysts in which vanadium oxide with ammonium metavanadate (NH_4VO_3) is dissolved in aqueous oxalic acid. Then powdered support as added. The resulting material was dried and calcined. See Experimental Section, para 2, abstract and table 1.

Response to Arguments

Applicant's arguments filed on 11/02/2010 have been fully considered but they are not persuasive.

Applicant argues that from Kleemann, a skilled person would not be motivated to use rare earth metal vanadate instead of ammonium vanadate because there is absolutely no hint or indication doing so.

However, the motivation for doing so is to give rise to a catalyst system that may catalyze extraneous redox reactions for both selective and non-selective oxidation and it can be used for oxidative removal of volatile organic compounds and other *noxious emissions* (Reddy, pg 10965, col. 1, lines 2-18). Kleemann teaches catalyst for the ammonia adsorption for its use in emissions (abstract and Introduction.1). Both

catalysts are used in similar atmosphere, therefore their use in emissions was a hint to combine Kleemann and Reddy.

Applicant argues CeVO₄ indicated in Reddy is obtained only **after calcination** with increasing calcination temperature from 973 to 1073 K, and even higher temperature (pg 10967, col. 2, para 2).

However, it is unclear how calcination renders combination of Reddy with Kleemann non obvious. Instant claims are not excluding any temperature range of the process being performed in.

Applicant argues that a skilled person would not be motivated to use TiO₂ or WO₃, and would definitely not be motivated to use both TiO₂ and WO₃.

However, Kleemann (primary references) use of TiO₂ and WO₃ together (2.1. Preparation of the coated catalysts). The need of motivation is unclear when above stated limitation is taught by primary reference.

Applicant argues that Kleemann uses ammonium metavanadate to "Investigation of the ammonia adsorption on monolithic SCR catalysts.". Changing ammonia metavanadate to a rare earth vanadate would change the technology described therein to be modified in a manner that is unsatisfactory for the intended purpose of the investigation of ammonia adsorption. Therefore the proposed combination of Kleemann and Reddy is improper and against the established case law.

However, according Kleemann active components of the catalyst are V_2O_5 and WO_3 supported on TiO_2 , and surface of catalyst exhibits strongly acid properties and thus adsorbs ammonia, therefore ammonium vanadate is not key component for ammonium adsorption (pg 231, col. 2, para 2). Therefore substituting vanadates wont effect ammonia adsorption and combination is valid.

Applicant argues that an ammonium metavanadate in Kleemann to be replaced by cerium vanadate bring impermissible hindsight using the Applicant's claims as a roadmap could result in such an assertion.

However, as explained above, substituting vanadates wont effect ammonia adsorption and combination is valid. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PRITESH DARJI whose telephone number is (571)270-

5855. The examiner can normally be reached on Monday to Thursday 8:00AM EST to 6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on 571-272-1233. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J.A. LORENGO/
Supervisory Patent Examiner, Art Unit 1731

/P. D./
Examiner, Art Unit 1731